AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions or listings of claims for this application.

Listing of Claims:

1. (Previously presented) A method of fabricating a resistance variable memory element, comprising the steps of:

forming a layer of a resistance variable material; and

subsequently increasing the rigidity of said resistance variable material by annealing said resistance variable material in an atmosphere comprising oxygen.

Claim 2 (Canceled).

3. (Previously presented) The method of claim 1 wherein said step of annealing comprises heating said resistance variable material to a temperature of about or below a thin-film glass transition temperature of said resistance variable material.

4. (Currently amended) The method of claim 1 wherein said step of annealing comprises the step of heating said ~~glass~~ resistance variable material to a temperature ranging from about 200°C to about 330°C for a time period ranging from about 5 to about 15 minutes.

5. (Original) The method of claim 4 wherein said time period is about 10 minutes.

Claim 6 (Canceled).

7. (Original) The method of claim 1 wherein said resistance variable material comprises a germanium-selenide glass.

8. (Original) The method of claim 7 wherein said germanium-selenide glass has a stoichiometry between about $Ge_{20}Se_{80}$ and about $Ge_{23}Se_{77}$.

9. (Original) The method of claim 7 wherein said germanium-selenide glass has a germanium molar concentration number of equal to or less than about 0.23.

10. (Original) The method of claim 1 wherein after increasing the rigidity, said resistance variable material has a mean coordination number of at least about 2.46.

11. (Original) A method of fabricating a resistance variable element, comprising the steps of:

forming a layer of germanium-selenide glass;

incorporating silver into said germanium-selenide glass layer to form a silver-germanium-selenide glass; and

processing said silver-germanium-selenide glass to remove at least some selenium from said silver-germanium-selenide glass.

12. (Previously presented) The method of claim 11 wherein said step of processing comprises heating said silver-germanium-selenide glass to a temperature at or slightly below a thin-film glass transition temperature of said silver-germanium-selenide glass.

13. (Previously presented) The method of claim 12 wherein said step of heating is performed in an atmosphere comprising oxygen.

14. (Previously presented) The method of claim 12 wherein after said step of heating said silver-germanium-selenide glass, said silver-germanium-selenide glass has a mean coordination number of at least about 2.46.

15. (Original) The method of claim 11 wherein said processing comprises annealing said silver-germanium-selenide glass at a temperature ranging from about 200°C to about 330°C for a time period ranging from about 5 to about 15 minutes.

16. (Original) The method of claim 15 wherein said time period is about 10 minutes.

17. (Original) The method of claim 11 wherein said germanium-selenide glass layer has a stoichiometry range from between about $Ge_{20}Se_{80}$ and about $Ge_{23}Se_{77}$.

18. (Original) The method of claim 11 wherein said germanium-selenide glass layer has a germanium molar concentration number of about 0.23 or less prior to said processing.

19. (Original) The method of claim 11 wherein after removing at least some selenium from said silver-germanium-selenide glass, said silver-germanium-selenide glass has a germanium molar concentration number greater than about 0.23.

20. (Currently amended) A method of forming a resistance variable memory element comprising the steps of:

forming a first electrode;

forming an insulating layer over said first electrode;

etching an opening in said insulating layer to expose said first electrode;

depositing a resistance variable material in said opening;

adding a metal to said resistance variable material to form a metal containing resistance variable material;

increasing the rigidity of said metal containing resistance variable material by changing the stoichiometry of said resistance variable material; and

forming a second metal electrode in contact with said metal containing resistance variable material.

21. (Original) The method of claim 20 wherein said step of increasing rigidity comprises annealing said metal containing resistance variable material.

22. (Previously presented) A method of forming a resistance variable memory element comprising the steps of:

forming a first electrode;

forming an insulating layer over said first electrode;

etching an opening in said insulating layer to expose said first electrode;

depositing a resistance variable material in said opening;

adding a metal to said resistance variable material to form a metal containing resistance variable material;

increasing the rigidity of said metal containing resistance variable material by annealing said metal containing resistance variable material in an atmosphere comprising oxygen; and

forming a second metal electrode in contact with said metal containing resistance variable material.

23. (Previously presented) The method of claim 21 wherein said step of annealing comprises the step of heating said metal containing resistance variable material to a temperature at or slightly below a thin-film glass transition temperature of said metal containing resistance variable material.

24. (Original) The method of claim 21 wherein said step of annealing comprises the step of heating said metal containing resistance variable material to a temperature ranging from about 200°C to about 330°C for a time period ranging from about 5 to about 15 minutes.

25. (Original) The method of claim 24 wherein said time period is about 10 minutes.

26. (Original) The method of claim 20 wherein after said step of increasing the rigidity, said metal containing resistance variable material has a mean coordination number of at least about 2.46.

27. (Original) The method of claim 20 wherein said resistance variable material comprises a germanium-selenide composition.

28. (Previously presented) A method of forming a resistance variable memory element comprising the steps of:

forming a first electrode;

forming an insulating layer over said first electrode;

etching an opening in said insulating layer to expose said first electrode;

depositing a resistance variable material comprising a germanium-selenide composition in said opening;

adding a metal to said resistance variable material to form a metal containing resistance variable material;

increasing the rigidity of said metal containing resistance variable material by removing at least some selenium from said germanium-selenide composition; and

forming a second metal electrode in contact with said metal containing resistance variable material.

29. (Previously presented) A method of forming a resistance variable memory element comprising the steps of:

forming a first electrode;

forming an insulating layer over said first electrode;

etching an opening in said insulating layer to expose said first electrode;

depositing a resistance variable material comprising a germanium-selenide composition in said opening;

adding a metal to said resistance variable material to form a metal containing resistance variable material;

increasing the rigidity of said metal containing resistance variable material by changing the stoichiometry of said germanium-selenide composition; and

forming a second metal electrode in contact with said metal containing resistance variable material.

Claim 30 (Canceled).

31. (Original) The method of claim 27 wherein said germanium-selenide composition has a stoichiometry range between about $Ge_{20}Se_{80}$ and about $Ge_{23}Se_{77}$.

32. (Original) The method of claim 27 wherein said germanium-selenide composition has a germanium molar concentration number of about 0.23 or less prior to said increasing step.

33. (Previously presented) A method of forming a resistance variable memory element comprising the steps of:

forming a first electrode;

forming an insulating layer over said first electrode;

etching an opening in said insulating layer to expose said first electrode;

depositing a resistance variable material comprising a germanium-selenide composition in said opening;

adding a metal to said resistance variable material to form a metal containing resistance variable material;

increasing the rigidity of said metal containing resistance variable material, said germanium-selenide composition having a germanium molar concentration of greater than about 0.23 after said increasing step; and

forming a second metal electrode in contact with said metal containing resistance variable material.

Claims 34-59 (Canceled).